

Notes on the Australian species of *Calliotropis* (Gastropoda: Trochidae) with descriptions of four new species

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This paper reviews the Australian species of the genus *Calliotropis* Seguenza, 1903. *Calliotropis glypta* Watson, 1886 was the only species known to occur in Australia. Four new species are described: *Calliotropis echidna*, *C. carinata*, *C. canaliculata* and *C. lamellifera* from off the New South Wales and Queensland coasts. *Calliotropis acherontis* Marshall, 1979 is recorded from off the eastern Australian coast.

Key words: Gastropoda, Trochidae, *Calliotropis*, new species

Introduction

The genus *Calliotropis* Seguenza, 1903 is found worldwide, mainly offshore at bathyal (< 200 m) to abyssal depths on fine bottoms (Hickman and McLean, 1990). Currently, there are about sixty described species in this genus, but least 25 undescribed species are known (C. Hickman, personal communication). The type species is a fossil from the Italian Pliocene.

Calliotropis is a member of the tribe Calliotropini Hickman and McLean, 1990, which can be diagnosed by a laterally expanded tip of the snout and a radula with only three lateral teeth per half row; the rachidian tooth is reduced in size relative to the lateral teeth (Hickman and McLean, 1990). The tribe also contains genera such as *Bathybembix* Crosse, 1892 and *Lischkeia* Fischer, 1880.

The shells are thin and variable in shape and size. They may be umbilicate or imperforate. The outer lip is simple, not thickened, without teeth or lirae. Shells have an exquisite sculpture, with spiral rows of spines or peaks. Very few have any pigmentation; most are white. The shell surface is lustreless, overlaid with a dull calcareous layer of white material characteristic of many species that live in deep water. The inside is nacreous and this often shines through the outer layer. The presence of an obvious periostracum has not been observed in Australian species.

So far, *C. glypta* (Watson, 1886) is the only species of *Calliotropis* recorded from off the Australian coast. This species has a large, widely umbilicate shell, and is relatively common. When first discovered, this shell looked so unlike any other species of Australian Trochidae, that the generic placement seemed a problem. Iredale created a new genus *Mazastele* for this species (Iredale, 1936), which was originally placed in the Calliostomatinae, although Iredale and McMichael (1962) indicate the placement of this genus as 'uncertain'. Recently Marshall (1979) recognised it as a species of *Calliotropis*.

Sampling off the eastern Australian coast, mainly by the HMAS 'Kimbla' and FRV 'Kapala', has yielded a number of new small-shelled species of *Calliotropis*, which are

described in this paper, as well as a species known previously from New Zealand. *C. glypta* is described and figured for comparison.

Materials and methods

All material referred to is located in the Australian Museum, Sydney (AMS). Type specimens from the Schepman collection in the Zoological Museum of the University of Amsterdam (ZMA) have been studied. Measurements of shell height (h), width (w) and height of the aperture (a) were taken from undamaged adult shells only. The measurements of the holotype are given separately; the largest and smallest of the paratype(s) are given. The number of specimens in each lot is indicated in brackets. Additional abbreviation: NMNZ, National Museum of New Zealand.

Taxonomy

Family Trochidae Rafinesque, 1815

Subfamily Eucyclinae Koken, 1897

Tribe Calliotropini Hickman and McLean, 1990

Genus *Calliotropis* Seguenza, 1903

Type species *C. otto* Philippi, 1844. Italian, Pliocene.

Calliotropis glypta (Watson, 1886)

(Plate 1, fig. a, b)

Trochus (Gibbula) glyptus Watson, 1886. p. 75, pl. 6, f. 6. Off Sydney, NSW, 750 m (410 fms).

Diagnosis: Shell large for genus (> 20 mm), low spired and widely umbilicate.

Description: Shell conical and widely umbilicate. Protoconch 1 1/2 whorls, globose; teleoconch 7 1/2 whorls. Spire whorls flatly rounded; sutures slightly impressed. Sculpture axial ribs on first and second whorl, crossed by two spiral rows of nodules. On third whorl, axial ribs fade, leaving only spiral rows of nodules, interstices becoming obliquely axially lamellose. On fourth whorl, top spiral row of nodules becomes enlarged and splits into two spiral rows of nodules at shoulder of whorl. Nodules at widest point of the whorl become more crowded and another row appears at suture. Sculpture on body whorl consists of two rows of nodules at shoulder, space crossed by many oblique axial lamellae and one weak spiral row of nodules and two more spiral rows of nodules at periphery and just above. Base flatly convex with five spiral rows of nodules, narrower than interstices. Last row of nodules surrounding umbilicus. Umbilicus wide, deep; smooth inside. Aperture with thin, slightly flaring outer lip; columella slightly reflected. Colour dull off-white, interior nacreous.

Measurements: (mm)

	h	w	a
Average specimen:	18.5	23.5	8.6

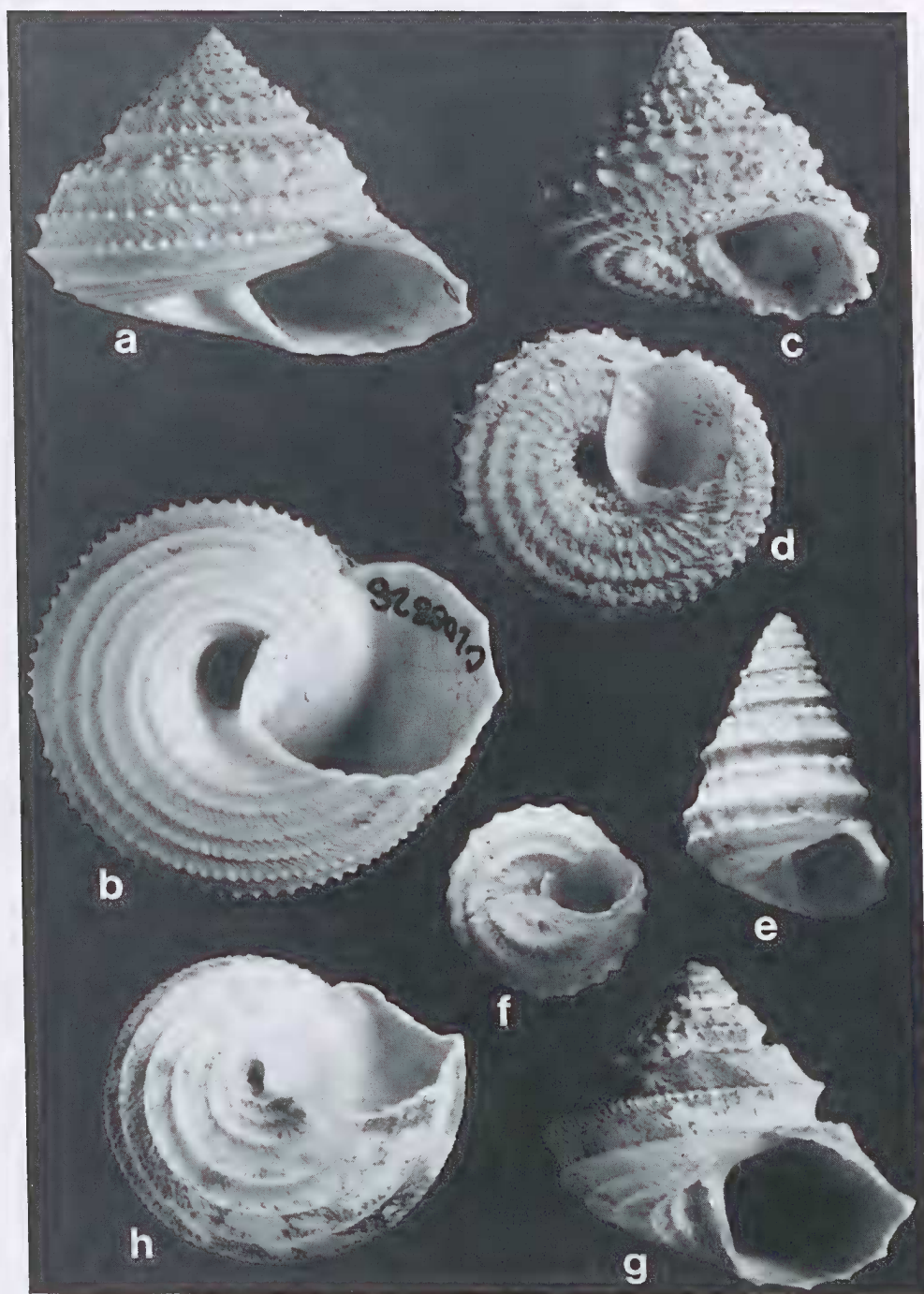


Plate 1. a, b *Calliotropis glypta* Watson, 1886. AMS C100828, off Broken Bay, NSW; c, d *C. echidna* n.sp. Holotype AMS C169582, NE of Cape Moreton, Qld.; e, f *C. acherontis* Marshall, 1979. AMS C169588, E. of Cape Three Points, NSW; g, h *C. canaliculata* n. sp. Holotype AMS C169584, off Sydney, NSW.

Material studied: New South Wales: 36 km. off Broken Bay, NSW, 640 m., 0415 – 0715 hrs, 19 Aug. 1975, 33°25–30'S, 153°03–07'E, mud, 20 m. otter trawl. FRV 'Kapala', K75-05-04, C100828 (1); E of Sydney, NSW, 17 Dec. 1975, 34°48–43'S, 151°48–51'E, 421 m., FRV 'Kapala', K75-12-07, C102869 (4); S. of Sugarloaf Point, NSW, 32°22–17'S, 152°58'E, 457 m., 2 Oct 1975, FRV 'Kapala' K75-08-03, C102824 (4); 32 km. E. of Sydney Heads, NSW, 549 m., C24451 (2); E. of Port Kembla, NSW, 412 m., 34°28–34'S, 151°19–17'E, mud bottom, demersal prawn trawl., 20 Aug. 1975, FRV 'Kapala', K75-05-07, C100862 (1); 24 km. E. of Kiama, NSW, 503 m., 34°36–45'S, 151°16–13'E, 21 Aug. 1975, mud bottom, demersal prawn trawl., FRV 'Kapala', K75-05-08, C100855 (6); 360–640 m., Sydney – Newcastle, NSW, Oct.–Nov. 1973, prawn trawl 'Kapala' (2); NE of Wollongong, NSW, 34°18–24'S, 151°26–21'E, mud bottom, demersal prawn trawl, Aug. 1975, 457–484 m., FRV 'Kapala', K75-05-06, C100845; off Newcastle, NSW, 33°11'S, 152°23'E, 567 m., 29 April 1971, 'Kapala' Stn. 71-08-05, C79205 (2); off Botany Bay, NSW, 24 May 1978, 34°19–17'S, 151°26–27'E, 466 m., trawled, 1300 hrs., 'Kapala' K78-08-03, C123481 (1); E. of Kiama, NSW, 16 Dec. 1975, 34°39–32'S, 151°15–19'E, 412 m., FRV 'Kapala' K75-12-05, C102734 (6); off Brush Is., NSW, 35°41–36'S, 150°40–43'E, 560–595 m., 16 Oct 1986, FRV 'Kapala', K86-28-07; off Wattamolla, NSW, 34°15–19'S, 151°28–26'E, 440–500 m., 3 Sept 1984, FRV 'Kapala', K84-14-01; off Sydney, NSW, 33°46–43'S, 151°51–54'E, 500–550 m., 4 Nov. 1985, FRV 'Kapala', K85-16-01.

Distribution: Off the New South Wales coast, Newcastle to Brush Is.; 366 to 640 m.

Remarks: This species is readily distinguished from the species below by its large size.

Calliotropis echidna n. sp.

(Plate 1, fig. c, d)

Diagnosis: Shell thick for genus; sculpture consisting of very sharp spines; '<' - shaped and reflected columella, with nodule at base.

Description: Shell thick for genus, conical and umbilicate. Protoconch 1 1/3 whorls, transparent; teleoconch 5 3/4 whorls. Spire whorls convex; sutures impressed. Sides of spire concave above and convex below. First whorl with smooth axial ribs, on second whorl two spines start appearing on each axial rib, size of spines increases until on fourth whorl two spiral ribs appear with spines and spines become hollow. On fifth whorl, a weak third spiral rib with spines appears between highest rib and suture. Body whorl with eight spiral ribs with spines, of which four above periphery; lowest two are largest. Base with four spiral ribs, gradually decreasing in size, only outer ones with spines, others with nodules, linked to each other by axial lamellae. Fourth rib set slightly inside umbilicus. Umbilicus with another, smaller rib. Columella resembling a smaller-than-symbol '<', strongly reflected, with small nodule at base. Aperture strongly oblique; outer lip thickened. Colour off-white to grey, interior nacreous.

Variation within the species: Shells vary in height-width ratio (see measurements) and the extent to which the spines are linked by axial lamellae. Northern Territory and New Caledonian specimens have axial streaks of pigmentation and sometimes an

almost smooth band at the periphery. Although these latter populations may prove to represent another, closely related, species. They are referred to as cf. *echidna* below.

Measurements: (mm)

		h	w	a
Holotype:		5.91	6.03	1.76
Paratypes:	largest:	5.91	6.76	2.26
	smallest:	4.79	5.73	1.35

Location of type material: AMS: Holotype C169582 and 17 paratypes C169583.

Type locality: Holotype and paratypes: 115–124 m., NE of Cape Moreton, Qld.

Other material studied: *C. echidna* Queensland: trawled 183 m., NNE of Cape Moreton, Qld., mv. 'Eileen Silva', C169862 (7); 128 – 183 m. off Cape Moreton, Qld., ex trawler, C169869 (4); 115 m. off Cape Moreton, Qld., C71469 (2); 115 – 124 m. off Cape Moreton, Qld., C169869 (6); Capricorn Channel, Great Barrier Reef, Qld., 23°08.6'S, 152°16.6'E, 155 m., dead shell, fine sand and mud, HMAS 'Kimbla', C169861 (2); 92 – 119 m., E. of Caloundra, Qld., C169861 (2); off Fraser Is., Qld, 210 m., coarse calcareous nodules, HMAS 'Kimbla', C169867 (1); E. of Lady Musgrave Is., Qld, 296 m., 23°52.5–51.9'S, 152°42.7–41.7'E, C164221; NE of Lady Elliott Island, Qld., 24°03.7'S, 152°49.4'E, 150 m., HMAS 'Kimbla', C170047 (2); SE of Swain Reefs, Qld., 187 m., 22°26–27'S, 153°17.13–6'E, HMAS 'Kimbla', Stn. 7, C16965 (3), C169860 (5), C169864 (5); 20 km. NE of North Reef, Qld., 115 m., 23°08.4'S, 152°12.3'E, HMAS 'Kimbla', Stn. 20, C169863 (10); off S. end Fraser Island, Qld., 210–219 m., 25°58'S, 153°51'E, sand, brachiopods, bryozoa, HMAS 'Kimbla Stn. Q16, C169871 (6); off Maroochydore, Qld., 26°41'S, 153°38.4'E, dredged ca. 200 m., HMAS 'Kimbla', C169872 (1).

New South Wales: ca. 24 km. E. of Little Bay (Malabar), Sydney, 192–203 m., 33°58'48"S, 151°34'30"E, C169870 (1).

E. cf. echidna Northern Territory: Approx. 100 ml. N. of Croker Is., NT, 9°30'S, 132°34'E, 124 m., mv. 'San Pedro Sound'; Arafura Sea, approx. 110 ml. N. of Melville Is., NT, 135 m., 9°34'S, 131°22'E, mv. 'San Pedro Sound'.

Outside Australia: New Caledonia: Sth. New Caledonia, 4 ml. S. of Ile des Pins, 22°50'S, 167°34'E, , coral sand bottom, HMAS 'Kimbla'.

Distribution: *C. echidna*: From off Sydney to Swain Reefs; 115 – 296 m. *C. cf. echidna*: Arafura Sea and New Caledonia.

Remarks: The only species of *Calliotropis* previously known from the east coast of Australia is *C. glypta* (Watson, 1886). The new species differs from that taxon by being less than one third in size, thicker-shelled and its sculpture of very sharp spines. The spines are so sharp, that shells often cling to fingers when picked up.

Two species from Indonesia are slightly similar. *C. multisquamosa* Schepman, 1908 is higher spired and has a straighter, less strongly reflected columella. *C. muricata* Schepman, 1908 is more finely sculptured and has two denticles on the columella.

Etymology: Named after the Australian echidna, because of its very spiny appearance.

Calliotropis acherontis Marshall, 1979

(Plate 1, fig. e, f)

Marshall, 1979. p. 529, f. 3 L-O, 9 A, B.

Diagnosis: Shell elevate-conical, maximum height for studied specimens 6 mm, sculptured with two spiral rows of knobs on each whorl.

Description: Shell elevate-conical and imperforate or with a narrow umbilical chink. Protoconch 1 1/3 whorls, globose; teleoconch 5 3/4 whorls. Spire whorls flat; sutures impressed. First and second whorls with axial ribs. On second whorl, two spines per axial rib start appearing, gradually becoming further apart and axial ribs becoming obsolete on later whorls. Sculpture on body whorl two nodulose ribs, first rib situated just below suture, second rib at periphery and third, much weaker, nodulose spiral rib below periphery, coinciding with suture in earlier whorls. Base with two narrow smooth ribs and one nodulose rib surrounding umbilical area. Columella slightly concave above, straight below and slightly reflected. Interior reflecting sculpture on outside. Outer lip thin; aperture nearly circular. Colour uniform white, interior nacreous.

Variation within the species: This species varies in the number of nodules on the spiral ribs. Some specimens have a very narrow umbilical chink.

Measurements: (mm)

	h	w	a
Average specimen:	5.28	3.78	1.42

Location of type material: NMNZ, MF30816.

Type locality: BS442 (29°16'S, 177°49.5'E, SE of Chanter Islets, Raoul Island, Kermadec Islands, clean pumice and gravel, 512–549 m., RV 'Acheron'.

Material studied: Queensland: E. of Lady Elliott Is., S. Qld., 24°00'S, 153°06.5'E, 531 – 476 m., fine grey ooze/sand, HMAS 'Kimbla', C169876 (3); Off Cairns, Qld., 17°09'42"-36"S, 146°42'24"-42°00"E, 613 – 668 m., firm clay and mud, C170046 (1).

New South Wales: Off Ulladulla, NSW, 549 m., C169874 (5); NE of Seal Rocks, NSW, 32°21'-23'S, 152°09'-153°00'E, 457 m., FRV 'Kapala' Stn. K75-07-02, C169875 (1); off Sydney, NSW, 457 m., 33°42'-39'S, 151°52'-54'E, FRV 'Kapala', C169873; E. of Cape Three Points, NSW, 33°28'-29'S, 152°52'E, 457–467 m., FRV 'Kapala' Stn. K79-20-08, C169588 (6); off Sydney, NSW, 457 m., 20 Dec. 1975, 33°42'S, 151°52'-54'E, 1430 hrs., FRV 'Kapala', K76-24-01 (2).

Outside Australia: Tasman Sea, Lord Howe Rise, 27°58.99'S, 162°51.55'E, 1250 m., epibenthic sled, coarse sediment with pumice, 'Franklin' Stn. FR6589-29, C166699 (pt.) SC/RC (wet material); off New Caledonia, 19°28'S, 168°53'E, 1025–1100 m., HMAS 'Kimbla', Stn. KI-71-6.

Distribution: On the continental slopes off eastern Australia coast from Cairns, Qld. to Ulladulla, NSW, Lord Howe Rise, Kermadec Islands, New Caledonia; 457 – 1250 m.

Remarks: The elongate conical shape and absence of an umbilicus (in most specimens) are characters of this species which separate it from all other Australian

species of *Calliotropis*. *Calliotropis hondoensis* (Dall, 1881) from Japan is similar in appearance, but is much larger and has more rounded whorls. *Bathybembix japonicus* (Dall, 1925) is much larger and has a different sculpture with three rows of nodules on the penultimate whorl. *Calliotropis tiara* (Watson, 1879) is also a similar, but broader species from off central eastern America (Quinn, 1979).

Calliotropis carinata n.sp.

(Plate 2, fig. a, b)

Diagnosis: The depressed conical shape in combination with the strong, smooth keel and convex base are diagnostic features which separate this species.

Description: Shell depressed conical, widely umbilicate. Protoconch 1 1/4 whorls, smooth, translucent white; teleoconch 4 1/3 whorls, flat; sutures impressed. First and subsequent whorls with axial ribs with two small spines on each axial rib, linked by a fine spiral rib; spines become larger and top spiral rib becomes obsolete in later

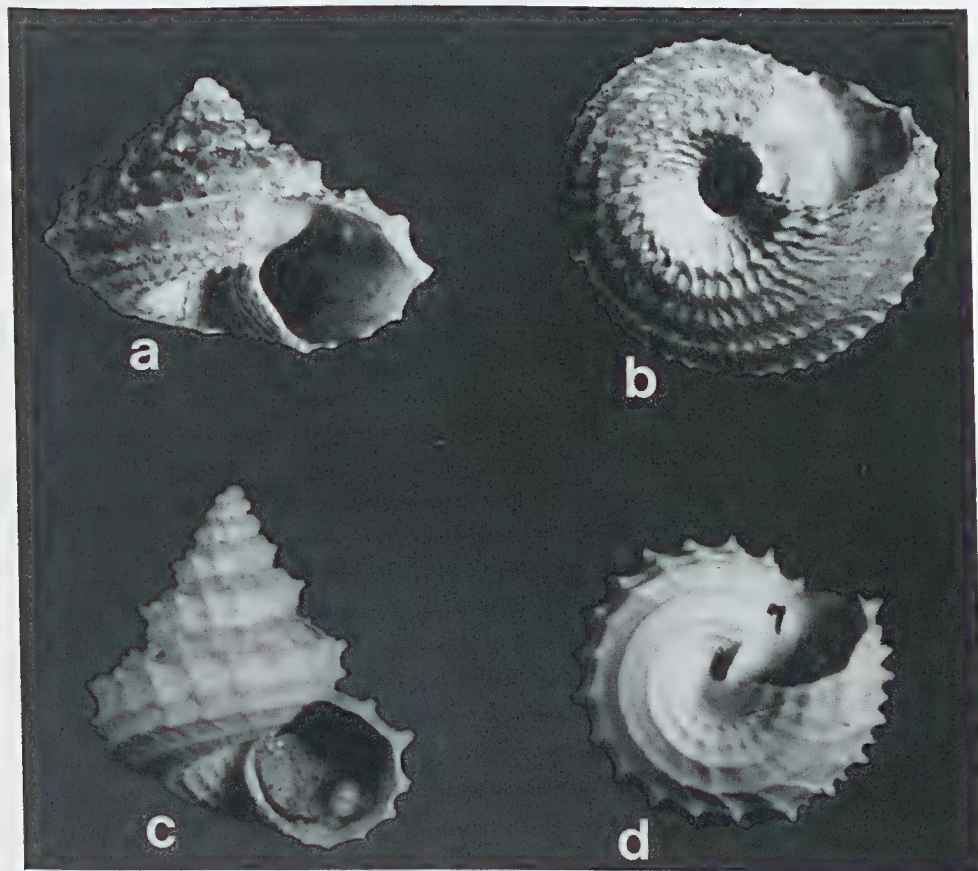


Plate 2. a, b *Calliotropis carinata* n. sp. Holotype, AMS C169586, off Sydney, NSW; c, d *C. lamellifera* n. sp. AMS C169587, off Sydney, NSW.

whorls. Body whorl with three spiral rows of spines, top row not connected by spiral rib. Second and third row of spines have progressively finer spines and stronger spiral ribs; third spiral at periphery, thin and sharp. Whole shell surface finely but irregularly axially striated. Base convex, with four sharply nodulose ribs, lowest one bordering umbilicus. Inside of umbilicus smooth. Columella concave, simple, not reflected. Outer lip thin, following the sculpture on the shell surface. Colour uniform white, interior nacreous.

Measurements: (mm)

		h	w	a
Holotype:		4.22	5.92	1.99
Paratypes:	largest:	5.01	7.15	2.42
	smallest:	3.72	4.75	1.61

Location of type material: AMS: holotype C169586 and three paratypes C169877.

Type locality: Holotype and paratypes: off Sydney, NSW, 33°31'-33'S, 152°07'-08'E, 940-917 m., FRV 'Kapala', Stn. K80-20-08.

Other material studied: Queensland: NE of Sandy Cape, Qld., 24°25.2'-24.6'S, 153°23.5'-22.4'E, 830 m., HMAS 'Kimbla' Stn. 16, C170045 (2).

New South Wales: E. of Sydney, NSW, 33°44'S, 151°57'E, 322 m., FRV 'Kapala', C169881 (1); off Sydney, NSW, 33°35'S, 152°09'E, 1097 m., FRV 'Kapala', C169880 (1); off Sydney, NSW, 33°42'S, 151°55'E, 549 m., FRV 'Kapala', C169879 (1); off Sydney, NSW, 34°05'S, 151°43.6'E, 750 m., sandy mud and fine shell, HMAS 'Kimbla' (9 – damaged/juvenile); off Sydney, NSW, 33°37'-39'S, 152°04'-02'E, FRV 'Kapala', 924-896 m., C169878 (5).

Distribution: Continental slopes off the eastern coast of Australia from Sandy Cape, Qld. to off Sydney, NSW; 322 to 1097 m.

Remarks: This species superficially resembles *Calliotropis echidna*, but can be distinguished by its convex base, smooth umbilicus and solid, rather than hollow, spines. It also lacks the strong axial lamellae on the base of the shell. *Calliotropis concavospira* (Schepman, 1908) from Indonesia is also similar, but has a more rounded body whorl and a smoother base. *C. calatha* (Dall, 1927) from eastern America is similar, but higher spired and has a more rounded body whorl.

Etymology: *carinatus* (latin) – keeled, referring to the sharp keel surrounding the body whorl.

Calliotropis canaliculata n.sp.

(Plate 1, fig. g, h)

Diagnosis: Shell conical, with channelled sutures; two sharp keels, the higher with sharp nodules, the lower a spinulose rib.

Description: Shell conical, with straight sides, sharply keeled, narrowly umbilicate. Protoconch 1 1/4 whorl, globose; teleoconch 4 1/2 whorls, carinated; sutures deeply channelled. First and second whorl with sharp axial ribs. Two spines per axial rib

develop on second whorl, bottom ones larger top ones, linked by spiral rib. Axial sculpture fading on third whorl, leaving only two spiral rows of nodules, one at shoulder, one just above suture of next whorl. Nodules on shoulder become larger and more widely spaced and ones above suture of next whorl increase in number and fuse into spinulose rib. Body whorl with two prominent keels, top one composed of large, sharp, upward pointing nodules, with small, horizontal shoulder above. Second keel at periphery, horizontally expanded with small, sharp nodules. Area between keels smooth and flat. Suture below second keel; channel-like. Base with five narrow spiral ribs with sharp nodules. Columella straight, reflected at top, thin at base. Umbilicus narrow. Outer lip sharp and simple; inside smooth. Colour uniform white, interior nacreous.

Measurements: (mm)

		h	w	a
Holotype:		6.82	7.82	2.72
Paratypes:	largest:	7.40	7.60	3.18
	smallest:	6.70	6.35	2.40

Location of type material: AMS: Holotype C169584 and four paratypes C169585.

Type locality: Holotype and paratypes: Off Sydney, NSW, 33°35-37'S, 152°05'E, 1106-1143 m., FRV 'Kapala', Stn. K80-20-10.

Other material studied: New South Wales: Off Sydney, NSW, 33°35-37'S, 152°05'E, 1143 - 1106 m., dredge FRV 'Kapala', C169888 (6); off Sydney, NSW, 33°36'S, 152°09'E, 1079 m., FRV 'Kapala', C169882 (1), C169883 (1), C169884 (1); off Sydney, NSW, 33°37-38'S, 152°04-02'E, 924 - 896 m., FRV 'Kapala', C169886 (2); off Wollongong, NSW, 34°27-26'S, 151°27'E, 1200 m., FRV 'Kapala', C169885 (2); S. of Newcastle, NSW, 33°05.4'S, 152°40.1'E, 1500 - 1700 m., R.V. 'Tangaroa', C170044 (1); off Nowra, NSW, 34°50'S, 151°15'E, 841 m., FRV 'Kapala', C169889 (1).

Distribution: Off the New South Wales coast between Newcastle and Nowra; 841 - 1700 m.

Remarks: This species is similar to *C. pagodiformis* (Schepman, 1908) from the Indonesian Archipelago, but the holotype of that species has larger nodules on the peripheral keel and has four ribs on the base instead of five. *Calliotropis dentata* Quinn, 1991 from the northwestern Atlantic is also similar in appearance, but has a less keeled body whorl and is more openly umbilicate. The species also superficially resembles *C. otto* (Philippi, 1844), the type of the genus, but that species has more rounded whorls.

Etymology: *canaliculatus* (Latin) - channelled, referring to the channelled suture.

Calliotropis lamellifera n. sp.

(Plate 2, fig. c, d)

Diagnosis: Shell elevate-conical, with rounded whorls. Sculpture of axial lamellae across spiral ribs, forming spines at intersections, largest on second rib, axial lamellae stop at fourth spiral rib.

Description: Shell elongate-conical, with rounded whorls, narrowly umbilicate. Protoconch 1 1/4 whorls, globose, white; teleoconch 5 2/3 whorls, angulated and rounded; sutures impressed. First whorl axially ribbed. Spines develop on shoulder of second whorl, becoming stronger on third whorl and on fourth whorl two more spiral rows of spines appear, one above and one below existing spiral row, linked by fine spiral ribs. Sculpture strengthening, spines becoming scales in later whorls. Body whorl with three spiral ribs above suture, with narrow, spine-like projections, largest in second spiral, crossed by axial lamellae, coinciding with spines. Axial lamellae stop at fourth, smooth, spiral cord. Base with three or four narrow spiral cords, bearing fine sharp spines. Sculpture continuing into umbilicus. Aperture nearly circular, columella simple, concave, without callus and not reflected. Outer lip thin, with three spines coinciding with ribs on shell surface. Colour completely dull white, interior nacreous.

Measurements: (mm)

		h	w	a
Holotype:		4.84	4.28	1.65
Paratypes:	largest:	4.84	3.86	1.54
	smallest:	3.80	3.21	1.46

Location of type material: AMS: Holotype C169587 and two paratypes C169891.

Type locality: Holotype: Off Sydney, NSW, 33°35'–37'S, 152°05'E, 1106–1143 m., FRV 'Kapala' Stn. K80-20-10.

Paratypes: NE of Sandy Cape, Qld., 1330–1380 m., 24°28.2'S, 153°31.2'E, HMAS 'Kimbla' Stn. 17.

Other material studied: Queensland: NE of Sandy Cape, Qld., 1330 – 1380 m., 24°28.2'S, 153°31.2'E, HMAS 'Kimbla' Stn. 17, C169892 (1).

New South Wales: Off Sydney, NSW, 33°42'S, 151°55'E, 549 m., FRV 'Kapala' (2); off Sydney, NSW, 33°35'S, 152°09'E, 1097 m., FRV 'Kapala', C169890 (1); off Sydney, NSW, 33°44'S, 151°51'E, 322 m., FRV 'Kapala' (1).

Distribution: Known only from off Sydney and Sandy Cape, Qld.; 322 to 1380 m.

Remarks: This species is unlike any other Australian species of *Calliotropis*, and is easily recognised by its rounded whorls and delicate spines. *Calliotropis hondoensis* (Dall, 1925) is similar in appearance, but is much larger, more widely umbilicate and does not have lamellae. *Calliotropis multisquamosa* (Schepman, 1908) also has lamellae, but is flatter in shape and does not have rounded whorls.

Etymology: *lamelliferus* (Latin) – producing lamellae, referring to the erect lamellae on the whorls.

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